

I claim:

1. A self-propelled, submersible pool cleaner comprising:
 - a) an integral sealed rechargeable battery;
 - b) a sealed water pump motor electrically connected to said battery, said motor having a shaft on which is mounted an impeller; and
 - c) a first portion of an inductive charging assembly electrically connected to said battery, said first portion of the inductive charging assembly being permanently affixed to said pool cleaner, said first portion of the inductive charging assembly having an aperture for receiving a second portion of the inductive charging assembly in mating relation, whereby said battery is recharged by the mating of the first and second portions of the inductive charging assembly and when said second portion is connected to an external power supply.
2. The pool cleaner of claim 1, wherein the battery produces a voltage in the range of from 6 volts to 12 volts.
3. The pool cleaner of claim 1, wherein the battery is connected to the pump motor through a switch.

4. The pool cleaner of claim 1, wherein the pump impeller is a propeller.
5. The pool cleaner of claim 1, wherein the pump motor operates on twelve volts.
6. The pool cleaner of claim 1, which further comprises a housing, wherein the battery is positioned inside of the housing.
7. The pool cleaner of claim 6, which further comprises a switch mounted on said housing, whereby the power from the battery can be interrupted when the switch is moved to an off position.
8. The pool cleaner of claim 7, wherein the switch is a light-sensitive optical switch for interrupting the power to the pump and drive motors.
9. The pool cleaner of claim 7, wherein the switch is a toggle switch.
10. The pool cleaner of claim 1, which further comprises a drive motor electrically connected to the battery for propelling the pool cleaner.
11. A battery-powered submersible pool cleaner comprising a pool cleaner housing, an integral rechargeable battery secured to said housing and an

inductive charging assembly, at least one portion of which is secured to said housing and electrically connected to the battery.

12. The pool cleaner of claim 11 that further includes an integral water pump and which is moved by the discharge of water from the water pump.

13. The pool cleaner of claim 11 that includes a programmed microprocessor and controller and which is programmed to move in a generally rectilinear path over the bottom surface of a pool or tank.

14. The pool cleaner of claim 11 in which a second portion of the inductive charging assembly is received in mating relation in a recess of the portion connected to the battery.

15. The pool cleaner of claim 14 in which the second portion includes a power cable and is of waterproof construction.

16. A method for improving the efficiency of an electric motor contained in a waterproof motor housing having at least one drive shaft extending through a waterproof seal in said motor housing, the method comprising the steps of heating the drive shaft to a temperature of about 40°; applying a liquid automotive crankcase antifriction lubricant additive to the shaft; heating the coated

shaft to a temperature of about 80° C; cooling the shaft to ambient temperature; assembling the drive shaft to the motor; and placing the seal on the drive shaft.

17. The method of claim 16, wherein the lubricant composition is a polymeric material.

18. The method of claim 16, wherein the liquid lubricant composition is applied to the portion of the shaft in contact with the seal.

19. The method of claim 16, wherein the drive shaft is stainless steel.

20. A method of improving the overall operating efficiency of an electric motor-powered assembly, the assembly comprising an electric motor, a drive shaft connected to the motor, a driven unit connected to the drive shaft and one or more contact units through which the drive shaft passes axially, the contact units selected from the group consisting of seals, bearings and journals, the method comprising the steps of: heating the drive shaft to a temperature of about 40°; applying a liquid automotive crankcase antifriction lubricant additive to the shaft; heating the coated shaft to a temperature of about 80° C; cooling the shaft to ambient temperature; assembling the drive shaft to the motor; and placing the seal on the drive shaft.